

1. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$-3x - 3 > 9x + 3$$

- A. $(-\infty, a)$, where $a \in [-2.3, 0.4]$
 - B. (a, ∞) , where $a \in [-0.15, 1.68]$
 - C. $(-\infty, a)$, where $a \in [-0.4, 1.5]$
 - D. (a, ∞) , where $a \in [-1.53, -0.15]$
 - E. None of the above.
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2. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$-3 - 8x < \frac{-44x + 4}{7} \leq 7 - 7x$$

- A. $[a, b)$, where $a \in [0.3, 2.48]$ and $b \in [-13.5, -6.75]$
 - B. $(-\infty, a] \cup (b, \infty)$, where $a \in [0, 4.5]$ and $b \in [-12.75, -6.75]$
 - C. $(-\infty, a) \cup [b, \infty)$, where $a \in [-0.75, 5.25]$ and $b \in [-11.25, -6.75]$
 - D. $(a, b]$, where $a \in [-0.75, 3]$ and $b \in [-11.25, -8.25]$
 - E. None of the above.
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3. Using an interval or intervals, describe all the x -values within or including a distance of the given values.

No less than 6 units from the number 10.

- A. $[4, 16]$
- B. $(-\infty, 4) \cup (16, \infty)$
- C. $(4, 16)$
- D. $(-\infty, 4] \cup [16, \infty)$

E. None of the above

4. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$-8 - 5x < \frac{-12x + 7}{3} \leq 6 - 6x$$

- A. $[a, b)$, where $a \in [-11.25, -6]$ and $b \in [-0.75, 4.5]$
B. $(-\infty, a) \cup [b, \infty)$, where $a \in [-13.5, -6]$ and $b \in [1.5, 2.25]$
C. $(-\infty, a] \cup (b, \infty)$, where $a \in [-12, -6.75]$ and $b \in [1.2, 2.7]$
D. $(a, b]$, where $a \in [-12, -9.75]$ and $b \in [-1.5, 6]$
E. None of the above.
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5. Using an interval or intervals, describe all the x -values within or including a distance of the given values.

No more than 2 units from the number -8 .

- A. $(-10, -6)$
B. $(-\infty, -10) \cup (-6, \infty)$
C. $(-\infty, -10] \cup [-6, \infty)$
D. $[-10, -6]$
E. None of the above
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6. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$\frac{-6}{5} - \frac{4}{4}x < \frac{5}{9}x + \frac{3}{6}$$

- A. $(-\infty, a)$, where $a \in [-4.5, 0.75]$
B. (a, ∞) , where $a \in [-0.6, 1.57]$

- C. $(-\infty, a)$, where $a \in [0, 2.25]$
 - D. (a, ∞) , where $a \in [-1.2, -0.07]$
 - E. None of the above.
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7. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$-9 + 8x > 11x \text{ or } 5 + 7x < 8x$$

- A. $(-\infty, a) \cup (b, \infty)$, where $a \in [-3.52, -0.6]$ and $b \in [3.97, 7.8]$
 - B. $(-\infty, a) \cup (b, \infty)$, where $a \in [-6.83, -3.3]$ and $b \in [2.7, 4.05]$
 - C. $(-\infty, a] \cup [b, \infty)$, where $a \in [-4.5, -2.25]$ and $b \in [4.12, 7.72]$
 - D. $(-\infty, a] \cup [b, \infty)$, where $a \in [-7.5, -3.75]$ and $b \in [2.1, 3.38]$
 - E. $(-\infty, \infty)$
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8. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$\frac{10}{4} - \frac{10}{8}x \leq \frac{8}{7}x - \frac{10}{3}$$

- A. $[a, \infty)$, where $a \in [1.5, 3.75]$
 - B. $[a, \infty)$, where $a \in [-3.75, -1.5]$
 - C. $(-\infty, a]$, where $a \in [-3, 2.25]$
 - D. $(-\infty, a]$, where $a \in [0.75, 4.5]$
 - E. None of the above.
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9. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$-7x + 6 \geq -4x + 4$$

- A. $(-\infty, a]$, where $a \in [-1.3, -0.3]$
 - B. $(-\infty, a]$, where $a \in [0, 4.3]$
 - C. $[a, \infty)$, where $a \in [-3.3, -0.2]$
 - D. $[a, \infty)$, where $a \in [-0.1, 2.6]$
 - E. None of the above.
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10. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$-6 + 7x > 9x \text{ or } 6 + 4x < 7x$$

- A. $(-\infty, a] \cup [b, \infty)$, where $a \in [-2.15, -1.67]$ and $b \in [2.06, 4.54]$
 - B. $(-\infty, a] \cup [b, \infty)$, where $a \in [-3.44, -2.54]$ and $b \in [1.46, 2.53]$
 - C. $(-\infty, a) \cup (b, \infty)$, where $a \in [-5.33, -2.92]$ and $b \in [1.65, 2.77]$
 - D. $(-\infty, a) \cup (b, \infty)$, where $a \in [-2.4, -0.75]$ and $b \in [2.7, 4.88]$
 - E. $(-\infty, \infty)$
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